



TENNESSEE DEPARTMENT OF

EDUCATION

FIRST TO THE TOP

Web Page Design II – Site Designer

Primary Career Cluster:	Information Technology
Consultant:	Bethany King Wilkes, (615) 532-2844, Bethany.Wilkes@tn.gov
Course Code(s):	6101
Recommended Prerequisite(s):	Algebra I (3102), Web Page Design I – Foundations (6100)
Credit:	1
Grade Level:	11-12
Aligned Student Organization(s):	Skills USA: www.tnskillsusa.com Brandon Hudson, (615) 532-2804, Brandon.Hudson@tn.gov Technology Student Association (TSA): www.tntsa.org Amanda Hodges, (615) 532-6270, Amanda.Hodges@tn.gov Future Business Leaders of America (FBLA): www.fblatn.org Sarah Williams, (615) 532-2829, Sarah.G.Williams@tn.gov
Teacher Resources:	http://www.tn.gov/education/cte/InformationTechnology.shtml

Course Description

This course prepares students with work-related skills for advancement into postsecondary education or industry. Course content includes exposure to basic and advanced Web design, pixilated and vector-based Web graphics, Web animations, dynamics of Web hosting, and Web design in E-commerce. The course content provides students the opportunity to acquire fundamental skills in both theory and practical application of Web design and of leadership and interpersonal skill development. Laboratory facilities and experiences simulate those found in the Web page design and Web page construction industry. Further, this course maps to the Certified Internet Webmaster “Site Designer” national certification examination. *(This course requires access to a computerized workstation for each student with Internet connection and webpage design and imaging software.)*

Course Standards

Standard 1.0

The student will develop and demonstrate human relations, self-management, organizational and professional leadership skills.

The student will:

- 1.1 Demonstrate self-initiative through group projects.
- 1.2 Examine the value of leadership skills.
- 1.3 Illustrate image building and public relations techniques.
- 1.4 Assess decision-making skills.
- 1.5 Demonstrate effective teamwork and critical analysis applying conflict resolution techniques.
- 1.6 Examine the value of leadership skills and confidence through personal reflection.
- 1.7 Demonstrate parliamentary procedure skills through team activities.
- 1.8 Analyze the goals and applies the principles of Future Business Leaders of America.

Sample Performance Task

- Research, design and lay out a membership recruitment bulletin for the Future Business Leaders of America that is appropriate for the school Web page.

Standard 2.0

Students will demonstrate an advanced knowledge of the Internet and various terms, tools, and utilities associated with the World Wide Web (WWW) and markup languages.

The student will:

- 2.1 Illustrate the relationship of Web design terms to Web designs and software applications.
- 2.2 Navigate successfully between uniform resource locator (URL) links.
- 2.3 Evaluate and apply standard path/file name structure.
- 2.4 Research new technologies.

Sample Performance Tasks

- Evaluate methods used or actions taken to design Web sites and assign the appropriate term.

Standard 3.0

Students will evaluate the relationship between Web site and Web page design.

The student will:

- 3.1 Analyze a Web site structure.
- 3.2 Distinguish between the Web site layout and individual page layouts.
- 3.3 Evaluate storyboarding to illustrate/plan a Web site layout.
- 3.4 Analyze navigation concepts to guide the user experience, including a navigation hierarchy, navigation conventions, and guided navigation.

Sample Performance Tasks

- Construct a diagram that accurately reflects a given Web site's design and structure.



Standard 4.0

Students will analyze variations of markup languages.

The student will:

- 4.1 Comprehend HTML (Hypertext Markup Language) and evaluate the evolution and future trends of markup language.
- 4.2 Evaluate the role and interaction of the W3C (World Wide Web Consortium) and with Web browser manufacturers.
- 4.3 Evaluate markup languages other than HTML.

Sample Performance Tasks

- Define distinguishing characteristics between markup languages, such as HTML, DHTML, and XML.

Standard 5.0

Students will plan and develop Web site structure and design.

The student will:

- 5.1 Diagram each phase of the Web development process.
- 5.2 Create a Web design team.
- 5.3 Choosing a coherent site metaphor to aid in navigation and map the site to audience expectations.
- 5.4 Analyze the relationship between Web design, Web site, and World Wide Web.
- 5.5 Evaluate procedures for planning, writing, editing, linking, and printing markup language.
- 5.6 Analyze the parts of Web design including design evaluation, information design, interaction design, and presentation design.
- 5.7 Brainstorm audience usability concerns and create a navigation action plan.
- 5.8 Create a navigation action plan.
- 5.9 Evaluate site implementation factors, including appropriate technologies, development time and available customer bandwidth.
- 5.10 Conduct a Web usability test, including page download times.

Sample Performance Tasks

- Develop a presentation explaining the relationship of Web design, Web site, and World Wide Web. Incorporate the parts of Web design and utilize graphics in developing the presentation. Present the information to a school or a community group.



Standard 6.0

Students will edit and modify markup language documents.

The student will:

- 6.1 Analyze the procedures for editing markup language documents.
- 6.2 Comprehend and use basic markup language tags to manipulate Web documents.
- 6.2 Format text and work with headers and fonts using appropriate markup language tags.
- 6.2 Modify markup language text, using tags to create form fields for users' submission.
- 6.2 Modify markup language text, using tags to create frame pages for site management.
- 6.2 Modify markup language text, using tags to create ordered, unordered, and definition lists.

Sample Performance Tasks

- Using the appropriate HTML tags, construct a form data submission field that will post the input data to a specified e-mail address and post the data to a specified HTML document, (i.e., a guest book).

Standard 7.0

Students will evaluate Web page construction.

The student will:

- 7.1 Evaluate the importance of effective Web page layout, including proper use of color (e.g., the browser-safe colors) and fonts in Web page design.
- 7.2 Evaluate the concept of graphic images in Web design.
- 7.3 Manipulate white space, borders, and alignments to enhance the layout and look of a webpage
- 7.4 Create, organize, and manipulate tables using the appropriate HTML tags and other markup language tags.

Sample Performance Tasks

- Utilize basic table tags with Web pages to organize content and enhance layout.
- Distinguish between the various attribute tags that enhance table layout and look.
- Using an existing Web document, use the appropriate HTML tags to incorporate the use of tables.
- Further enhance the tables using cell color, spanning, and padding.

Standard 8.0

Students will confirm organization and connection of multiple Web documents that use hyperlinks, anchors, and bookmarks.

The student will:

- 8.1 Compare and contrast internal and external hyperlinks.
- 8.2 Brainstorm the use of internal Uniform Resource Locators (URL) relative to document and object location within the Web site.
- 8.3 Evaluate the procedures used to emplace bookmarks and anchors to easily navigate within large complex documents.

Sample Performance Tasks

- Provide students with a multi-page site with a requirement to create links for each page with a central or home page. Both the relative and absolute uniform resource locators (URL) must be given for each hyperlink emplaced.



Standard 9.0

Students will evaluate Web browser restrictions with markup languages, and markup language tags as identified by the World Wide Web Consortium (W3C).

The student will:

- 9.1 Analyze non-standard tags.
- 9.2 Evaluate characteristics unique to Web browsers, (i.e., margins and leading white space).
- 9.3 Comprehend and explain depreciated tags.
- 9.4 Differentiate between tags, which are standard, and those, which have been depreciated.

Sample Performance Tasks

- Select from a list of tags that are standard or proprietary to unique Web browsers.

Standard 10.0

Students will evaluate the process for creating and editing graphic images for the Web, such as HTML.

The student will:

- 10.1 Compare and contrast bitmaps and vector graphics.
- 10.2 Evaluate commonly used COTS graphics creation applications.
- 10.3 Evaluate common image file formats.
- 10.4 Create a simple background image.
- 10.5 Edit image brightness, contrast, file size, and resolution.
- 10.6 Choose between image file size and image visual quality.
- 10.7 Optimize image quality.
- 10.8 Evaluate techniques to replace photo background.
- 10.9 Analyze blurring techniques to hide photo imperfections.
- 10.10 Demonstrate cropping procedures of photo dead space.

Sample Performance Tasks

- Change photo background and blur imperfections in the background.
- Crop photo to eliminate dead space.
- Present work to the class.

Standard 11.0

Students will apply the appropriate process and technique to create animations.

The student will:

- 11.1 Evaluate basic animation creation.
- 11.2 Analyze the application of appropriate background color for use in animation creation.
- 11.3 Demonstrate tweening techniques to construct complicated animations.
- 11.4 Demonstrate industry-accepted techniques to construct and analyze complicated animations.

Sample Performance Tasks

- Illustrate variations using background color and transparency.



Standard 12.0

Students will demonstrate proficiency with the features and utilities available with commercial off-the-shelf (COTS) Web building software.

The student will:

- 12.1 Demonstrate familiarity with features of COTS Web publishing packages that use graphics or graphical user interfaces.
- 12.2 Demonstrate COTS Web publishing software to construct complicated page features.
- 12.3 Analyze the process to construct advanced enhancements using COTS software.

Sample Performance Task

- Construct several Web pages with COTS products.

Standard 13.0

Students will demonstrate techniques used to incorporate multimedia within markup language documents.

The student will:

- 13.1 Determine the value of using multimedia in a site.
- 13.2 Evaluate the procedures for embedding audio files such as MIDI and MP3 into Web documents.
- 13.3 Evaluate the procedures for video streaming techniques in Web documents.
- 13.4 Construct and modify sound files.
- 13.5 Embed ActiveX and Java into a Web page.
- 13.6 Evaluate advanced multimedia techniques, including downloadables and plugins.
- 13.7 Determine if using multimedia is appropriate for your audience.

Sample Performance Task

- Construct web documents with audio files such as MIDI and MP3 embedded.

Standard 14.0

Students will apply markup language and scripting, such as XML, Java Script, applets, objects, event handlers, functions, variables, and conditionals to markup language documents.

The student will:

- 14.1 Design and demonstrate basic scripting functions using markup languages such as Java Script.
- 14.2 Evaluate the purpose and functionality of programming language, such as applets, objects, event handlers, functions, variables and conditionals.
- 14.3 Analyze COTS Web software's ability to construct the above advanced enhancements.
- 14.4 Differentiate between compiled and interpreted programming languages.
- 14.5 Analyze object-oriented principles and object modeling.
- 14.6 Evaluate object creation and destruction, associations and links, aggregation, inheritance, and other object design fundamentals.
- 14.7 Differentiate between Dynamic HTML, DHTML, and HTML.
- 14.8 Evaluate the structure of a well-formed XML document.
- 14.9 Use DHTML and XML in a Web site.
- 14.10 Evaluate the relevance of cookies to JavaScript and to a successful Web site.



Sample Performance Tasks

- Develop basic scripting functions.
- Work as a team to develop a presentation indicating differences between applets, objects, event handlers, functions, variables and conditionals.
- Use and evaluate COTS software's ability to construct advanced scripting functions.
- Compare between compiled and interpreted programming languages and determine when to use each.
- Brainstorm and discuss object-oriented principles.
- Demonstrate object creation and destruction associations and links, aggregation, and inheritance.
- Troubleshoot and correct problems with a faulty XML document.
- Construct a web document using DHTML and XML.
- Brainstorm how cookies interact with the functionality of JavaScript.

Standards 15.0

Students will evaluate HTTP and database performance.

The student will:

- 15.1 Analyze basic HTTP server administration.
- 15.2 Evaluate the usefulness of CGI.
- 15.3 Analyze the anatomy of a database.
- 15.4 Evaluate the potential of database queries.
- 15.5 Evaluate database management systems.

Sample Performance Tasks

- Configure a HTTP server for an Intranet use and describe how preparation for the internet would differ.
- Configure a basic CGI form handler, (i.e., cgiemail).
- Draft a graphic representation of database anatomy and explain your perceptions.
- Comprehend and list basic SQL syntax to construct/affect simple queries of a database.
- Perform database management of a database that fails to perform.



Course Resources

Type	Name of Item	Description	Publisher/Author	OBJ's Covered
Curriculum Teachers Lessons and Student Workbooks	<i>CIW Design Methodology and Technology Classroom Bundle</i>	Complete Curriculum developed specifically to meet the state recognized certification in web mastery	Prosofttraining http://prosofttraining.com	ALL
Instructor's Guide Student Workbook	<i>PDP – The Professional Development Program – from SkillsUSA</i>	Guides students through 84 employability skills lessons. These include goal setting, career planning and community service	http://www.skillsUSA.org/store PDP Instructor's Guide (quantities of 1-24) \$25.95	1
Handbook	<i>Front Page Unleashed (2000/2003)</i>	Front Page Bible	SAMS ISBN# 0-672-31675-7 \$49.99	4-7
Handbook	<i>Photoshop Classroom in a Book</i>	Photoshop Bible	Adobe ISBN# 0-201-71016-1	2-3
CDROM SET	<i>Mastering Photoshop</i>	Great Computer based training for Adobe Photoshop	Learnkey Inc 800-865-0165	2
CDROM SET	<i>Site Designer Series</i>	Great Computer based training. Modeled after CIW Site Designer Series	Learnkey Inc 800-865-0165	ALL
Workbook	<i>Mastering JavaScript</i>	Great “one-day” JavaScript reference	DDC, ISBN# 156243836-0	5

